National Institute of Environmental Health Sciences

Allergenic pollen and pollen allergy in Europe

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Abstract:

The allergenic content of the atmosphere varies according to climate, geography and vegetation. Data on the presence and prevalence of allergenic airborne pollens, obtained from both aerobiological studies and allergological investigations, make it possible to design pollen calendars with the approximate flowering period of the plants in the sampling area. In this way, even though pollen production and dispersal from year to year depend on the patterns of preseason weather and on the conditions prevailing at the time of anthesis, it is usually possible to forecast the chances of encountering high atmospheric allergenic pollen concentrations in different areas.Aerobiological and allergological studies show that the pollen map of Europe is changing also as a result of cultural factors (for example, importation of plants such as birch and cypress for urban parklands), greater international travel (e.g. colonization by ragweed in France, northern Italy, Austria, Hungary etc.) and climate change. In this regard, the higher frequency of weather extremes, like thunderstorms, and increasing episodes of long range transport of allergenic pollen represent new challenges for researchers.Furthermore, in the last few years, experimental data on pollen and subpollen-particles structure, the pathogenetic role of pollen and the interaction between pollen and air pollutants, gave new insights into the mechanisms of respiratory allergic diseases.

Source: http://www.ncbi.nlm.nih.gov/pubmed/17521313

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Ecosystem Changes, Temperature

Air Pollution: Allergens, Interaction with Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Other Health Impact

Other Health Impact: allergic diseases

Resource Type: ☒

format or standard characteristic of resource

Review

Timescale: ☒

time period studied

Time Scale Unspecified